

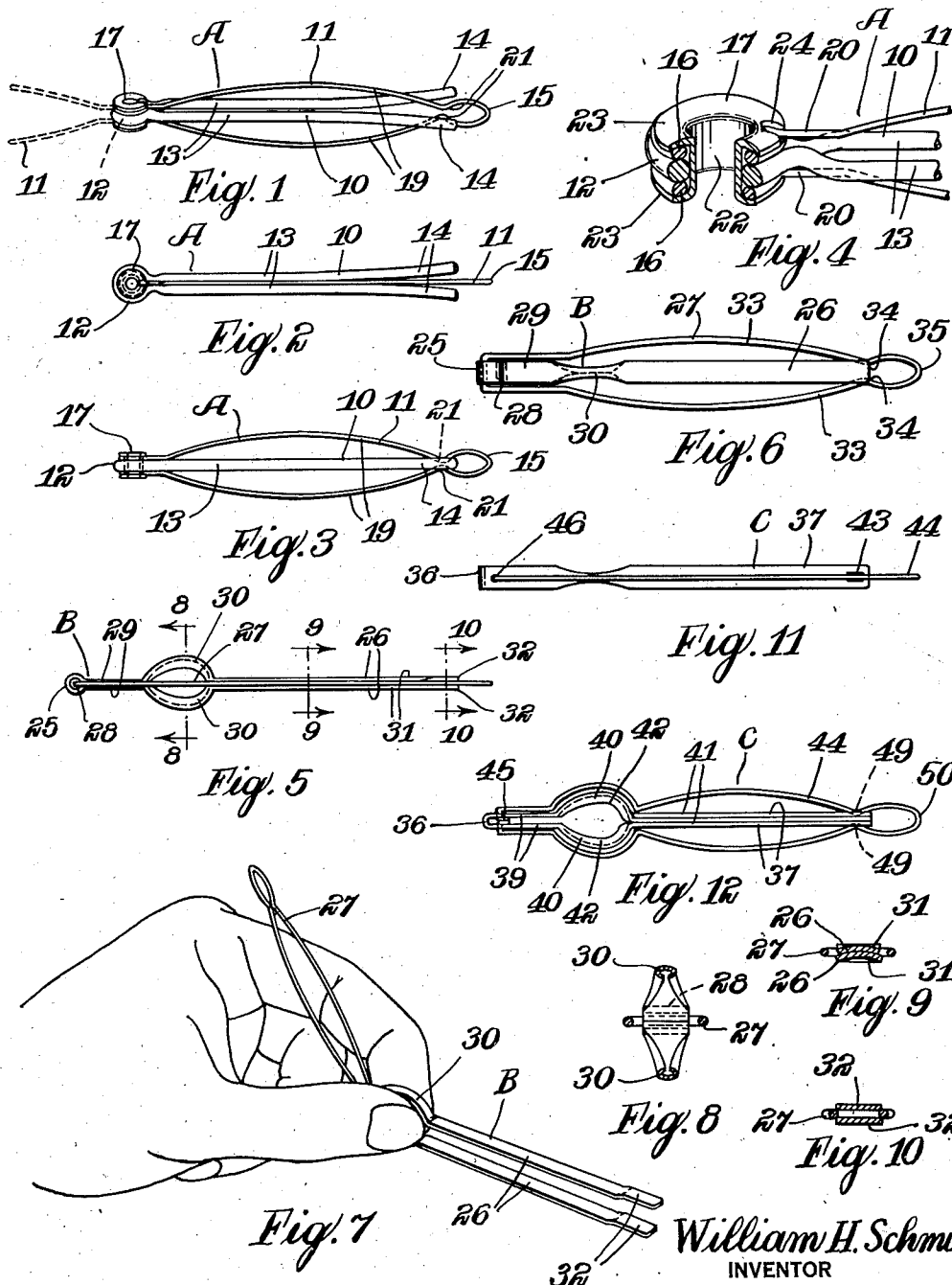
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HAIR CURLER

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HAIR CURLER

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My invention relates to an improvement in hair curlers, wherein it is desired to provide a curler which is simple in construction and inexpensively formed.

Many different designs of hair curlers have previously been constructed. Some of these curlers are constructed with tubular elements having a clamping member to hold the hair against the tubular element. While these previous constructions have proven satisfactory in most respects, they are disadvantageous for two reasons. In the first place, the tubular elements are costly to construct, and must preferably be formed of light weight material which is sometimes difficult to obtain. In the second place, the tubular bodies are extremely apt to be uncomfortable to the wearer if they are worn overnight.

It is the object of the present invention to overcome the previous difficulties experienced with hair curlers of the same general type, and to provide a curler which may be inexpensively constructed and formed of material which is readily available. It is further the object of the invention to provide a curler which is formed of rounded parts which are not apt to injure the wearer even if the curlers are worn at night.

It is a feature of my invention to provide a curler which is formed of a substantially U-shaped piece of wire or strip material having a closed end and opposed open ends. This substantially U-shaped strip of material may be of one piece, or of two pieces secured together and is designed to engage the ends of locks of hair therebetween. The hair which is engaged between the sides of the U-shaped element is clamped under the spring tension of the U-shaped element itself, which obviates the necessity for a separate clamping element of the type commonly used in the past to clamp the ends of the strands of hair.

It is a feature of my invention to provide in combination with a spring clamping member for clamping the ends of strands of hair, a loop or the like, which engages over the hair wound about the clamping element so as to hold the curler in place. This clamping loop or element is pivotally secured adjacent the closed end of the clamping element and swings over the open end thereof to lock in this position. When swung over the end of the clamping element the wire loop is held in place with respect to the clamping element so that the hair wound thereupon cannot become unwound therefrom.

A feature of my invention resides in the fact

that the clamping element itself forms the clamp for engaging the ends of the strands of hair, thereby obviating the necessity of a separate clamping member and spring for urging the clamping member against the curler body. Not only does this simplify and cheapen the cost of manufacture, but also it makes the curler easier to insert and remove, as less parts must be operated in order to properly position the curler in the hair.

A further feature of my invention lies in the fact that means may be provided for spreading the ends of the clamping member if it is so desired. As a result, the opposite sides of the clamping element may be easily engaged by the fingers and spread apart for insertion, the natural spring of the material holding these clamping members together to clamp the ends of the strands of hair therebetween, when finger pressure tending to spread the clamping members apart is released.

A further feature of my invention resides in the provision of a rivet or grommet, when such is required, which turns in combination with the locking loop of wire. In order to maintain the proper pivotal engagement between the wire locking loop and the clamping body of the curler, the rivet or grommet is so formed as to rotate with the locking loop, thereby preventing any danger of injury to the locking loop, or any tendency for the locking loop to resist pivotal movement when being swung into or out of place.

These and other objects and novel features of my invention will be more clearly and fully set forth in the following specification and claims.

In the drawing forming a part of my specification:

Figure 1 is a perspective view of one form of hair curler, illustrating the construction thereof.

Figure 2 is a top plan view of the curler illustrated in Figure 1 of the drawing.

Figure 3 is a side elevation view of the curler illustrated in Figures 1 and 2.

Figure 4 is an enlarged detail view of the pivot connecting the locking wire loop to the clamping element, a portion of the pivot being broken away to illustrate the construction thereof.

Figure 5 is a top plan view of a modified form of construction.

Figure 6 is a side elevation view of the curler construction illustrated in Figure 5.

Figure 7 is a perspective view of the curler illustrated in Figures 5 and 6 showing the construction thereof.

Figure 8 is an enlarged section through the curler, the position of the section being indicated by the line 8—8 of Figure 5.

Figure 9 is a cross sectional view through another portion of the curler, the position of the section being indicated by the line 9—9 of Figure 5.

Figure 10 is a cross sectional view through another part of the curler, the position of this section being indicated by the line 10—10 of Figure 5.

Figure 11 is a side elevation view of a modified form of curler.

Figure 12 is a top plan view of the curler illustrated in Figure 11.

The curler A, illustrated in Figures 1 to 4 of the drawing, comprises a clamping body or element 10 and a locking loop or element 11. The clamping body 10 comprises an elongated wire or strip which may be of any desired cross-sectional shape, but which is shown as being circular in cross section. The clamping body 10 includes a closed loop 12 which forms a bearing for the pivot of the curler. A pair of parallel arms 13 extend outwardly from the loop 12 and diverge outwardly toward their extremities 14. The diverging ends 14 permit hair to enter between the parallel arms 13 and to be clamped firmly therebetween. This provides an anchor for the ends of the strands of hair which are then wound about the clamping body 10.

The wire loop 11 is preferably provided with a central closed end 15 and a pair of circular loop ends 16 thereupon. The circular loop ends 16 are designed to lie on opposite sides of the clamping body loop 12 and to be held in this position by a rivet or grommet 17 which forms a pivot for the two elements 10 and 11. The spring arms 19 of the locking loop 11, preferably extend parallel at 20 for a short distance closely adjacent the pivot 17 and then arc outwardly from the clamping body 10 to overlies the hair wound about the clamping body 10. The arms 19 arc inwardly near the closed end 15, forming a pair of opposite projecting points 21 which are spaced apart a distance less than the diameter of the arms 13 of the clamping body 10. Between these points 21 and the loop end 15 of the locking loop 11, the arms 19 curve outwardly to form a finger engaging end by means of which the locking loop may be pivoted into and out of locking position.

In operation, the ends of the strands of hair are inserted between the diverging ends 14 of the arms 13, and the curler is urged into clamping position much in the manner in which a clothes pin is inserted into place. When the ends of the strands of hair have been clamped, the curler is rotated to wind the hair about the clamping body 10. During this operation, the locking loop 11 is swung into the position indicated in dotted outline in Figure 1 of the drawing.

When the hair has been wound about the curler body, the locking loop 11 is swung through substantially 180 degrees, the inwardly projecting points 21 engaging against one of the arms 13 and being spread by contact with the clamping body. When the loop 11 has been swung into the position indicated in Figure 1 of the drawing, it will remain in place until manually removed, because in order to pivot out of this position the locking loop 11 must spread adjacent the points 21 under spring tension. This spring tension, necessary to spread the opposite arms 19 of the loop 11, is just sufficient to prevent accidental

opening of the locking loop without making the curler difficult to operate.

As illustrated in Figure 4 of the drawing, the pivot 17 is preferably in the form of a grommet having a substantially cylindrical wall 22, about which the loops 16 and 12 are engaged. End flanges 23 firmly clamp the circular loops 16 and 12 in place. In preferred form notches 24 are cut in the flanges 23 to engage on opposite sides of the parallel portions 20 of the loop 11 so as to cause rotation of the grommet 17 in unison with the locking loop 11. As the entire locking loop pivots in unison with the grommet, rotation of either of the loops 16 is not hindered by friction on both sides of the loop tending to bend the relatively thin wire loop 16 out of shape.

In Figures 5 through 10 of the drawing, I disclose the curler B, which is slightly different in construction from that previously described. The curler B is preferably formed from an elongated flat strip of material which is centrally folded at 25 to provide opposed arms 26. The arms 26 may be integral or may be formed of two parts connected together at the fold 25. In preferred form the fold 25 is enlarged to form a barrel 28 for journaling the end of a wire locking loop 27. The ends of the loop 27 may be inserted in the hollow journal 28 and may pivot with respect to the curler body.

The curler body is comprised, as has been stated, of arms 26. These arms 26 are bent to provide parallel portions 29 adjacent the journal 28 and are then formed to provide outwardly arcuated loops 30. The loops 30 are arcuated outwardly a sufficient distance to permit the fingers to engage therebetween to spread these loop portions apart as best seen in Figure 8 of the drawing. The edges of the arcuated portions 30 are rolled inwardly so as to provide a smooth folded surface for engagement of the fingers. By grasping the curler, as illustrated in Figure 7 of the drawing, an inward pressure of the finger and thumb will spread the arms 26 apart to permit hair to enter between the arms 26. With the ends of the strands of hair between the arms 26 the pressure is released, allowing the arms to clamp together.

The arms 26 beyond the arcuated portions 30 continue into parallel portions 31, which are preferably slightly channel-shaped, as best illustrated in Figure 9 of the drawing. This curving of the parallel portions 31 of the arms tends to stiffen the arms and also to continue the tendency for the hair to curl around the curler body. The extreme ends 32 of the arms 26 are flat and are spaced slightly apart, as best illustrated in Figures 5 and 10 of the drawing.

The locking loop 27 is arcuated outwardly at 33 away from the arms 26 and near the free ends 32. The locking loop is bowed inwardly to provide projecting portions 34 which are normally spaced closer together than the width of the arms 26. Thus the locking loop engages between the ends 32 of the curler body, thus holding the locking loop 27 in locking position. The locking loop 33 is preferably provided with a closed end 35 projecting beyond the ends of the arms 26 to permit swinging of the loop.

In operation the curler B is grasped as illustrated in Figure 7 of the drawing, the arms 26 being spread by pressure of the finger and thumb. The ends of the strands of hair are then clamped between the arms 26 which hold the strands of hair while the strands are wrapped about the arms 26. When the hair has been wrapped

about the clamping body, the loop 27 is swung into locking position, at which time the projecting points 34 engage between the ends of the arms 26. The locking loop is held in place until it is manually pivoted out of locking position.

In Figures 11 and 12 of the drawing, I disclose another form of my invention, which is similar in construction to that which has just been described. In the curler C, illustrated in Figures 11 and 12, the curler is formed of a strip of material which is folded at 36 to provide two parallel arms 37. The arms 37 are essentially flat and parallel at portions 39 adjacent the fold 36, and are then outwardly arcuated to form outwardly bulging portions 40 which provide finger engaging means. The arcuated portions 40 merge into clamping portions 41, which are preferably somewhat channel-shaped in cross section, as indicated in Figure 9.

This channel shape of the arms 37 stiffens the arms and assists the natural tendency for the hair ends to curl. As in the case of the curler B, the arms 37 are free to flex apart between the finger engaging portions and the central fold, as the portions intermediate the finger engaging portions and the central fold are flat and the remaining portions of the curler body are preferably provided with rolled edges.

As noted in Figures 11 and 12 of the drawing, the finger engaging portions 40 are provided with rolled edges 42 which are bent in much the manner indicated in Figure 8 of the drawing. Thus the finger is not injured by the relatively sharp edges of the curled body.

A pair of elongated slots 43 are cut in the arms 37 near the extreme free edges thereof. A wire loop 44 is provided with inturned ends 45 which engage in apertures 46 in the flat portions 39 of the curler body. The wire loop 44 is provided with substantially parallel portions 37 adjacent the inturned ends 45 and then bows outwardly to extend over the finger engaging portions 40. The loop 44 arcs inwardly near the free ends of the arms 37 and is provided with projecting points 49 which engage into the slots 43. The loop 44 is preferably closed at 50 so as to provide a means of swinging the loop into or out of locking position. In this case, however, as well as in the previously described constructions, the loop 44 may be closed at its pivot end and open at its outer end.

In operation the curler C is identical with the curler B. In other words, the entire construction is identical to that of the curler B, with the exception that the loop 44 of the curler C is positioned to pivot about an axis perpendicular to the flat parallel portions 39 of the arms 37, while in the curler B the loop 27 is pivoted on an axis parallel to the plane of the parallel portions 29 of the arms 26.

In accordance with the patent statutes, I have described the principles of construction and operation of my hair curlers, and while I have endeavored to set forth the best embodiments thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A hair curler, including a clamping element, comprising a pair of arms between which hair may be clamped, said arms being formed of resilient material constructed to normally lie closely together and to spread apart under tension when hair is inserted therebetween, and a locking loop

pivoted to said clamping element at one end thereof and swingable into longitudinal alignment with said clamping element to hold hair wound thereupon engaged about said clamping element, said loop including inwardly projecting means resiliently engaging between said arms.

2. In a curling device, a curler body comprising a pair of arms connected at one end and diverging apart at their opposite ends, a clamp swingably mounted at said one end of said body and adapted to be swung to a position longitudinal thereof, and integral cooperable means on said clamp and said body for holding said clamp in said longitudinal position, said clamp resiliently engaging between said diverging ends of said arms.

3. In a curling device, a curler body comprising a pair of arms connected at one end and diverging apart at their opposite ends and being formed of resilient material to permit hair to be clamped therebetween, a clamp swingably mounted to said one end of said body and adapted to be swung to a position longitudinal thereof with its outer end projecting beyond said body, said clamp comprising a pair of outwardly bowed sides bowing outwardly from said body between the ends of said body, and having inwardly projecting points designed to resist swinging of the clamp past said arms of said body, said clamp being spreadable adjacent said points to permit engagement of said clamp between said arms of said body.

4. In a curling device, a curler body comprising a pair of arms connected at one end, outwardly bowed finger engaging portions between the ends of said arms adapted to space said arms apart at said portions and to permit engagement of the fingers between said arms to spread said arms apart, and a clamp swingably mounted to said one end of said arms adapted to be swung to a position longitudinal thereof.

5. In a curling device, a curler body comprising a pair of arms connected at one end and having free opposite ends, outwardly arcuated finger engaging portions between said ends to space said arms apart at said portions, a resilient portion between said finger engaging portions and said one end, and a clamp pivotally secured to said one end and adjusted to be swung to a position longitudinal thereof.

6. In a curling device, a curler body comprising a pair of arms connected at one end, a pair of outwardly projecting finger engaging portions adapted to space said arms apart at said portions and to permit engagement of the fingers between said arms to spread the same, resilient portions interposed between said finger engaging portions and said one end, clamping portions between said finger engaging portions and said other ends between which hair may be clamped, and a clamp swingably mounted to said one end of said body and adapted to be swung to a position longitudinal thereof.

7. In a curling device, a curler body comprising a pair of arms connected together at one end, the connection between said arms forming a journal, a pair of outwardly arcuated finger engaging portions between said ends adapted to space said arms apart at said portions and to permit fingers to be inserted therebetween to spread the arms apart, and a clamp swingably mounted in said journal.

8. In a curling device, a curler body comprising a pair of substantially flat arms connected at one end, outwardly bowed finger engaging portions

in said arms to space said arms apart at said portions between which fingers may be engaged to spread the arms, and a clamp extending through said arms adjacent said one end and swingably mounted to said body, said clamp being adjusted to be swung to a position longitudinal of the body.

9. In a curling device, a curler body comprising a pair of arms connected at one end, outwardly arcuated finger engaging portions between said ends to space said arms apart at said portions, said arms being formed of flat strip material, said finger engaging portions having inwardly rolled edges of said material, said finger engaging portions designed to permit engagement of fingers therebetween to spread said arms apart, and a clamp swingably secured to said body adjacent said one end, and adapted to be swung to a position longitudinal thereof.

10. In a curling device, a curler body comprising, a pair of substantially flat strips connected at one end, outwardly bowed finger engaging portions in said strips to space said arms apart at said portions between which fingers may engage to spread said strips and clamping portion on said arms between said finger engaging portions and the other ends of said arms.

11. A hair curler including a curler body comprising a pair of clamping arms connected at one end and formed of resilient material, said arms being normally urged together by the resilience of the material of which they are formed, said arms being capable of spreading apart at their opposite ends to clamp hair therebetween, and a clamp swingably mounted to said one end of said body and adjusted to be swung to a position longitudinal thereof, said clamp including inwardly projecting means resiliently engageable between said arms.

12. In a curling device, a curler body comprising a pair of arms connected at one end and formed of resilient material, said arms being normally urged together by the resilience of the material of which they are formed, said arms being capable of spreading apart at their opposite ends and to clamp hair therebetween, a clamp swingably mounted to said one end of said body and adapted to be swung to a position longitudinal thereof, and integral cooperable locking means on said loop and on said body to hold said loop in said longitudinal position engaging between said arms.

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